

5.4 Worksheet

Period: _____ Date: _____

Write an equation of the line in Point-Slope Form through the given point and with the given slope m .

1. $(2, 1); m = 3$ $y - 1 = 3(x - 2)$

2. $(-3, -5); m = -2$ $y - (-5) = -2(x - (-3))$

$y + 5 = -2(x + 3)$

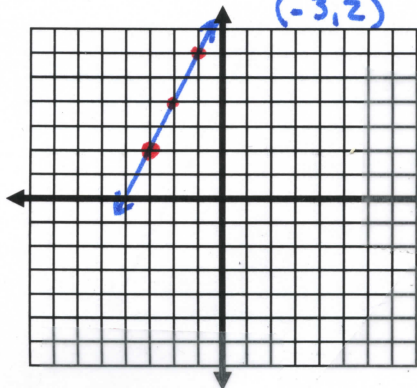
3. $(-4, 11); m = \frac{3}{4}$ $y - 11 = \frac{3}{4}(x - (-4))$
 $y - 11 = \frac{3}{4}(x + 4)$

4. $(0, -3); m = -\frac{2}{3}$ $y - (-3) = -\frac{2}{3}(x - 0)$

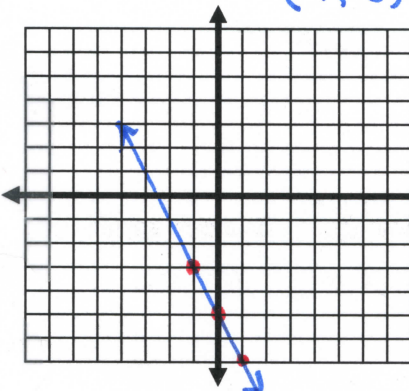
$y + 3 = -\frac{2}{3}x$

Graph each equation.

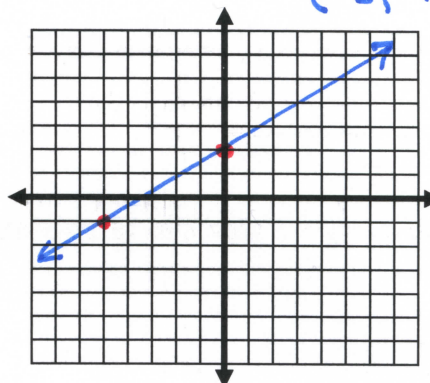
5. $y - 2 = 2(x + 3)$ $m = 2$
 $(-3, 2)$



6. $y + 3 = -2(x + 1)$ $m = -2$
 $(-1, -3)$

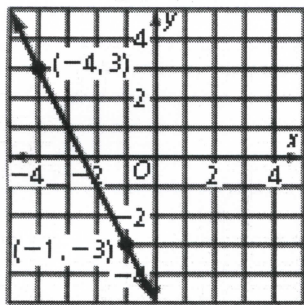


7. $y + 1 = -\frac{3}{5}(x + 5)$ $m = -\frac{3}{5}$
 $(-5, -1)$

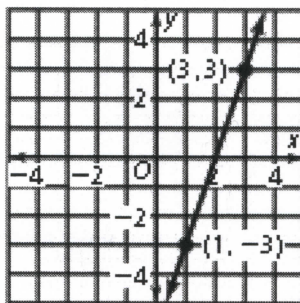


Write an equation in point-slope form for each line.

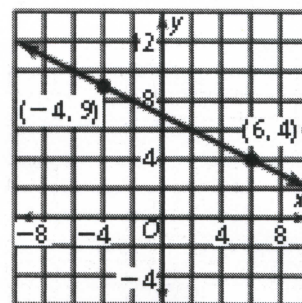
8. $(-4, 3)$ $m = \frac{3-3}{-1-(-4)} = \frac{0}{-5} = 0$
 $= -2$



9. $m = \frac{3-3}{3-1} = \frac{0}{2} = 0$
 $= 3$



10. $m = \frac{4-9}{6-(-4)} = \frac{-5}{10} = -\frac{1}{2}$



$(-4, 3) \quad y - 3 = (-2)(x - (-4))$
 $y - 3 = -2(x + 4)$

$(-1, -3) \quad y + 4 = -2(x + 1)$

$(3, 3) \quad y - 3 = 3(x - 3)$

$(1, -3) \quad y + 3 = 3(x - 1)$

$(-4, 9) \quad y - 9 = -\frac{1}{2}(x + 4)$

$(6, 4) \quad y - 4 = -\frac{1}{2}(x - 6)$

Write an equation in point-slope form of the line through the given points.

11. $(4, 0), (-2, 1)$

$m = \frac{1-0}{-2-4} = \frac{1}{-6} = -\frac{1}{6}$

$(4, 0) \quad y - 0 = -\frac{1}{6}(x - 4)$

$y = -\frac{1}{6}(x - 4)$

$(-2, 1) \quad y - 1 = -\frac{1}{6}(x + 2)$

12. $(-3, -2), (5, 3)$

$m = \frac{3-(-2)}{5-(-3)} = \frac{5}{8}$

$(-3, -2) \quad y + 2 = \frac{5}{8}(x + 3)$

$(5, 3) \quad y - 3 = \frac{5}{8}(x - 5)$

13. $(-5, 1), (3, 4)$

$m = \frac{4-1}{3-(-5)} = \frac{3}{8}$

$(-5, 1) \quad y - 1 = \frac{3}{8}(x + 5)$

$(3, 4) \quad y - 4 = \frac{3}{8}(x - 3)$